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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,012	01/08/2001	Armon Amir	ARC9-2000-0093-US1	7103

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EXAMINER

CHAU, COREY P

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 04/09/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/757,012

Applicant(s)

AMIR ET AL.

Examiner

Corey P Chau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 20 and 22-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-16 is/are allowed.
- 6) ☒ Claim(s) 1-8, 20, and 22-29 is/are rejected.
- 7) ☒ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 24 is objected to because of the following informalities:

On line 9 of page 7, "microphone, and a head location" should be replaced by "microphone, or a head location". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 3, 4, 5, 8, 20, 22, 23, 24, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fig. 1 in U.S. Patent No. 5477270 to Park.
4. Regarding Claim 1, Fig. 1 discloses a camcorder including a sound receiving function having a unified image and sound qualities that consist of a plurality of microphones to receive input sound from the subject (i.e. microphone is disposed at the same position as the camcorder)(Fig. 1, reference 10, 11, and 12; column 1, lines 31-40); and a microcomputer (i.e. computer implemented method) outputs a control signal according to a wide/tele signal so as to represent the distance from the sound source

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(i.e. determining a gain adjust signal based in part on the person-microphone position) (column 1, lines 61-66), wherein wide/tele signal is the detected position indicated by a direct current (DC) voltage and is applied from a camera section to the microcomputer (i.e. person-microphone position) (column 2, lines 2-6). Audio signals are then adjusted appropriately in the electronic volume controls in accordance with the control signal produced by the microcomputer, therefore producing a life-like audio output (i.e. gain adjust signal to establish the audio output level) (column 1, lines 46-54). On page 10, lines 4-10, applicants argue "that the lens position may not even be tangentially related to the distance between the person and the microphone". However this argument is not persuasive because the applicants did not claim such limitations. In addition, the objective of the wide/tele signal disclosed in Fig. 1 is to represent a distance from the camcorder to the sound source, wherein the sound source is a person, a person's mouth, or a person's head, therefore obtaining a person-microphone position.

5. Regarding Claim 2, wide/tele signal (i.e. person-microphone position signal) is derived from a video system (column 1, lines 61-63; column 2, lines 2-6).

6. Claim 3 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos of Claim 1. The image source that is recorded on the camcorder used to adjust the wide/tele signal can be a person's mouth or head (i.e. gain adjust signal is determined based at least partially on at least one of: a distance from a person's mouth to a microphone, a orientation of a person's head relative to the microphone, and a head location relative to a direction of sensitivity of a microphone).

7. Regarding Claim 4, Fig. 1 discloses a camcorder that records a unified image and sound quality (i.e. recording at least one calibration person-microphone position and recording at least one calibration audio level), therefore generating a mapping (column 1, lines 17-38).

8. Regarding Claim 5, Fig. 1 discloses a mapping used to generate a signal to produce a change in the electronic volume associated with the recorded image (i.e. using the mapping to generate at least one gain adjust signal based on the at least one person-microphone position signal) (Fig. 2; Table 1; column 2, lines 2-46).

9. Regarding Claim 8, Fig. 1 discloses gain adjust signal is determined contemporaneously with a recording of the person.

10. Regarding Claim 20, Fig. 1 discloses at least one microphone electrically connected to at least one audio amplifier (Fig. 1, reference 10, 11, 12, 13, 14, and 15); at least one video camera; and a microcomputer (i.e. processor) outputs a control signal according to a wide/tele signal (i.e. video signal) so as to represent the distance from the sound source, wherein sound source is a person, a person's mouth, or a person's head, therefore obtaining a person-microphone position (i.e. determining a gain adjust signal based in part on the person-microphone position and determines a gain adjust signal based at least partially on: a distance from a person's mouth to a microphone as determined from the video camera signals, or an orientation of a person's head relative to the microphone as determined from the video camera signals) (column 1, lines 61-66). Audio signals are then adjusted appropriately in the electronic volume controls in accordance with the control signal produced by the microcomputer, therefore producing

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a life-like audio output (i.e. gain adjust signal to establish the audio output level) (column 1, lines 46-54). As stated in Claim 1, the objective of the wide/tele signal disclosed in Fig. 1 is to represent a distance from the camcorder to the sound source, wherein the sound source is a person, a person's mouth, or a person's head, therefore obtaining a person-microphone position.

11. Regarding Claim 22, Fig. 1 discloses a camcorder that records a unified image and sound quality (i.e. recording at least one calibration person-microphone position and recording at least one calibration audio level), therefore generating a mapping (column 1, lines 17-38). The mapping used to generate a signal to produce a change in the electronic volume associated with the recorded image (i.e. using the mapping to generate at least one gain adjust signal based on the at least one person-microphone position signal) (Fig. 2; Table 1; column 2, lines 2-46).

12. Regarding Claim 23, Fig. 1 discloses electronic volume controls that receives an audio stream from the amplifier and adjust the gain of the audio signal (i.e. a slow adjust filter using an audio stream to generate a slow gain adjust signal) (Fig. 1).

13. Regarding Claim 24, Fig. 1 discloses at least one microphone electrically connected to at least one audio amplifier (Fig. 1, reference 10, 11, 12, 13, 14, and 15); at least one video camera; and a microcomputer (i.e. processor) outputs a control signal according to a wide/tele signal (i.e. video signal) so as to represent the distance from the sound source, wherein sound source is a person, a person's mouth, or a person's head, therefore obtaining a person-microphone position (i.e. determining a gain adjust signal based in part on the person-microphone position and determines a gain adjust

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signal based at least partially on: a distance from a person's mouth to a microphone as determined from the video camera signals, or an orientation of a person's head relative to the microphone as determined from the video camera signals) (column 1, lines 61-66). Audio signals are then adjusted appropriately in the electronic volume controls in accordance with the control signal produced by the microcomputer, therefore producing a life-like audio output (i.e. gain adjust signal to establish the audio output level) (column 1, lines 46-54). As stated in Claim 1, the objective of the wide/tele signal disclosed in Fig. 1 is to represent a distance from the camcorder to the sound source, wherein the sound source is a person, a person's mouth, or a person's head, therefore obtaining a person-microphone position.

14. Regarding Claim 25, Fig. 1 discloses a camcorder.

15. Regarding Claim 26, Fig. 1 discloses a wide/tele signal representative of a distance from a sound source (i.e. distance sensing system).

16. Claims 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. US 2002/0068537 to Shim et al. (hereafter as Shim).

17. Regarding Claim 6, Shim discloses a system for automatic speaker volume and microphone gain control system (Fig. 7) that adjusts the speaker volume and/or the microphone gain control according to an estimated user-device distance (i.e. determining a gain adjust signal based at least in part on the person-microphone position signal) (abstract). Distance sensors are used to estimate a distance between the sensor and some portion of the user or user's head that include (i.e. person-

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microphone position signal), but are not limited to, an infrared sensor, a photoelectric sensor, a sound reflection sensor, a capacitive sensor, and a temperature sensor (i.e. person-microphone position signal is derived from a motion sensing system or a position sensing system or an orientation sensing system or a distance sensing system) (page 1, paragraph 0005).

18. Regarding Claim 7, Shim discloses distance sensors include, but are not limited to, an infrared sensor (i.e. laser system), a photoelectric sensor, a sound reflection sensor, a capacitive sensor, and a temperature sensor.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claim 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 1 in U.S. Patent No. 5477270 to Park in view of U.S. Patent No. 4807051 to Ogura.

21. Fig. 1 discloses a camcorder with a conventional microphone that includes a central microphone, left microphone, and a right microphone. Figure 1 does not have plurality of microphone to have a gain adjust signal determined by selecting one of several microphone output based on head position. Ogura discloses a video camera having one microphone disposed in the front of the camera and another microphone

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disposed in the rear of the camera that automatically changed from one over to the other according to the object distance. The sensitivity of the microphone is adjusted according to the object distance, so that the sounds of an object to be photographed can be clearly recorded even in the event of a long object distance. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camcorder of Figure 1 with the teaching Ogura to have one microphone disposed at the front disposed in the front of the camera and another microphone disposed in the rear of the camera that automatically changed from one over to the other according to the object (i.e. head) distance. The sensitivity (i.e. volume controls) of the microphone is adjusted according to the object distance, so that the sounds of an object to be photographed can be clearly recorded even in the event of a long object distance (i.e. gain adjust signal determined by selecting one of several microphone output based on head position) (Fig. 1, reference 4 and 5; Figs. 3a, 3b, 4a, 4b, 5a, and 5b; column 1, lines 46-55; column 2, lines 52-65; column 3, lines 23-56; column 7, line 63 through column 8, line 16).

22. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 1 in U.S. Patent No. 5477270 to Park in view of U.S. Patent No. 6421064 to Lemelson et al (hereafter as Lemelson).

23. Fig. 1 discloses all elements of Claim 29 except for an illumination-based pupil detector or a face detector. Lemelson discloses an eye tracking apparatus using a low power infrared laser or LED to provide and place a glint on the person's eye to enhance

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finding the center of the person's eye. The low power infrared laser or LED is couple to optics and the optics is couple to a camera. The camera is used to provided images of the head and the eye of a person, a zoom lens coupled to the camera for focusing the camera at the person, and optic coupled to the camera for aiding the camera in detecting or providing images of the head and eye of the person (Fig. 3C, references 26, 76, and 77; column 12, lines 31-36; column 4, lines 14-23 and lines 48-53).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camcorder of Figure 1 with the teaching Lemelson to incorporate the eye tracking apparatus to the camcorder to provide and place a glint on the person's eye to enhance finding the center of the person's eye which will zoom the camcorder.

Allowable Subject Matter

24. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

25. Claims 11-16 are allowed.

26. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches receiving a video stream representative of at least one person and at least one microphone and deriving person-microphone position signals using the video stream.

Claims 12-16 are allowable due to dependence from Claim 11.

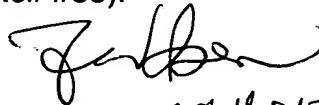
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P Chau whose telephone number is (703)305-0683. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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April 5, 2004